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U. S. DEPARTMENT OF AGRICULTURE

FARMERS' BULLETIN No 1139

A METHOD OF ANALYZING THE FARM BUSINESS



FROM
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A FARM to be successful should maintain its productivity and should return a reasonable wage for the labor of the farmer and his family, after paying farm expenses and deducting a fair rate of interest on the investment.

Four important factors in the success of a farm business are size of business, yield of crops, returns from livestock, and efficiency in the use of labor.

What is the size of your farm business?

What part of your investment is in land, buildings, livestock, machinery, and other capital?

Are your crops properly proportioned for greatest returns?

How do your crop yields compare with the average yields of the locality?

What classes of livestock return you the most money?

How do the returns from your livestock compare with the average of your locality?

How many acres of crops do you raise per man? Per horse?

Is your farm so organized that each part of the business is yielding satisfactory returns?

How much have you left for your own labor after deducting from your total receipts your year's expenses, value of labor performed by members of your family, and interest on your investment?

How much does the farm contribute toward your family living?

This bulletin outlines a system of analyzing the farm business, designed to help the farmer answer such questions as these and thus locate the strong and weak points in his plan of management.

Record your year's financial transactions in the blanks provided in this bulletin and apply the tests of farm efficiency to your own business.

A METHOD OF ANALYZING THE FARM BUSINESS

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WHAT AN ANALYSIS SHOWS

THIS BULLETIN aims to assist farmers to a better understanding of the financial side of their business. It outlines a method of analyzing the farm business to determine the capital, receipts, expenses, and profits. It includes blanks for making such an analysis and recording the amount and value of farm products contributed toward the family living. Thousands of farms have been studied by this method within the past few years, with the object of analyzing their operations from a business standpoint and learning the more important reasons for their success or failure. Experience shows that it is not always possible to distinguish profitable farms merely by casual observation. Where a farm is operated as a large business, if free from debt, even a low rate of interest on the capital invested, without any wages for the operator, may return sufficient funds to give the place a prosperous appearance. In other cases an appearance of prosperity may be due largely to income from outside sources. A farm can not properly be called successful unless it pays a fair rate of interest on the capital, returns fair wages for the farmer's labor, and, at the same time, maintains or increases the fertility of the soil.

Most farmers have the details of their business sufficiently well in mind for purposes of analysis, but they are not always able to summarize these details into a concrete statement. They realize that the gain from a large business should be more than from a small one, that good cows are more profitable than poor ones, and that good crops are more desirable than those that barely pay for harvesting. Their main difficulty is that they have no convenient way of determining just how good or how poor the business really is; in other words, no way of measuring its efficiency. With such an analysis as outlined here, a farmer can more readily find the strong and weak points in his system of management and make changes with some assurance that they will result in greater profits.

NOTE.—A part of this material was issued in 1915 as Farmers' Bulletin 661, by E. H. Thomson and H. M. Dixon. Several years' experience with the application of this method to the business analysis of a large number of farms makes this revision possible.

Agricultural teachers, county agents, and other extension workers, as well as farmers, will find the blanks used in this form of analysis helpful. Teachers may give copies to their pupils for use in making records of their home farms. These records may then be summarized and furnish information to both teacher and pupils concerning economic phases of the local agriculture. Groups of farmers assembled for a discussion of the economic side of their business may find the blanks of value, as arrangements can be made so that each farmer can be furnished a copy to figure his own farm profits. Later meetings may be devoted to a discussion of the results. Work of this kind will help reveal the true status of the local agriculture and show some of the problems confronting the farmers and aid in their solution.

The blanks may also be filled in by individual farmers and sent to the State agricultural college or to the United States Department of Agriculture for suggestions.

FARM ACCOUNTS

Farm accounts may be grouped into two classes: (1) Those pertaining to the farm business as a whole, or "financial accounts," and (2) those pertaining to an analysis of the various enterprises, commonly called "cost accounts." The method presented here pertains to the analysis of the farm business as a whole. In order properly to analyze each enterprise it is necessary in addition to this analysis to obtain labor and other records for all the enterprises and feed records for each livestock enterprise.

In making a record of the farm business, accounts are of value. Many farmers have a record of the more important financial transactions. The accounts will vary on different farms, but a memorandum of all farm receipts and expenses is valuable when summarizing the year's business. Farm accounting is more a question of knowing what accounts to keep and what use to make of them than of the kind of form or blank. This method of farm analysis will suggest the accounts of most value.

The extension service of the State college of agriculture in most States has prepared a simple farm account book. Information regarding these books may be obtained through the county agricultural agent or by applying direct to the State college of agriculture.

METHOD OF FARM ANALYSIS

The blank forms outlined on pages 21 to 32 have been prepared for use in determining the net income from the farm business. Space is also provided for recording the amount and value of farm products furnished the family. The wide variation in the kinds of farming carried on in different parts of the country renders it impracticable to prepare a single set of blanks for all conditions. The forms are, therefore, rather general, and it may often be necessary to insert items not listed. The blanks have been designed for use in analyzing the business of a farm operated by either the owner or tenant.

FARM TENURE

In farm-management studies a farm is usually understood to be all the land operated as one unit. Exception may be necessary. For instance, if the operator rents out single fields it may be well to include his share of the returns from the rented-out areas. The farm may consist of both owned and rented land, if all, or nearly all, this area is operated by one set of machinery, horses, workmen, etc. When a man owns two farms, operated rather independently of each other, they are considered separate farms. The operator is the person responsible for the year's farming operations. Thus, if an owner directs the farm operations he is the operator; but if a renter directs the operations, the owner is the landlord and the tenant is the operator.

The cropper, share hand, halver, or tenant laborer usually furnishes the manual labor and little or none of the working equipment. He, therefore, bears close relation to the wage hand, the main difference being that he is paid a share of the farm products instead of cash wages for his services. The farm operator furnishes all or nearly all the capital, pays nearly all the expense and exercises most of the supervision of the business. Such a proposition may be considered a part of the farm business, and the value of the share of products received by the cropper or share hand, minus any expense other than labor paid by him, may be inserted as the expense for "cropper" labor (blank form, p. 27). The value of the products he received must also be included in the receipts, and the other expenses he paid included under "Current expenses." The operations of croppers or share hands who furnish any considerable part of the operating equipment and operate a part of the farm independently of the rest of the business should usually be handled as separate propositions. The blank is designed for handling such propositions in the way which seems to represent best the conditions on the individual farm.

FARM INVENTORY

An inventory is a list of the amount and value of all farm property. In any method of analysis the farm inventory is important, and space is provided for making the inventory at the beginning and end of the year. It shows whether the business has increased or decreased during the year. Whether the year as a whole has been profitable cannot well be determined without the inventory.

In the farm inventory the date when the farm year begins varies. Some farmers begin their year's accounting on January 1; others find some other date desirable. In some sections the time tenants ordinarily change farms is chosen. Many farmers close accounts at March 1 or April 1, the time of year in many regions when practically all feeding operations from the preceding year have been completed. The fundamental principle in taking an inventory is to choose a time when the least feed and unsold products are on hand.

FARM AREA

The farm area (blank form, p. 21) should include all land operated as one farm. The acreage is separated into eight divisions according

to utilization. If more than one crop is grown on any of the land during the year the acreage should be counted but once for determining the "acres in crops."

CROP RECORD

In the form on pages 22 and 23 space is provided for recording the acreage and yield of each crop, the amount and value of the operator's or the landlord's sales, and the amount and value of crops for family use. Crops grown that are not mentioned in this schedule should be written in, using the blank space or spaces provided by scratching out the names of crops not grown in the locality. The sum of the acres in the several crops should equal the "Acres in crops" shown on page 21. If a second crop is grown on any of the fields during the year, the acreage should be "ringed" (as ²⁹) to avoid confusion in adding the acres in crops. Under "Sales" all amounts sold from the farm or held for sale should be entered. Crops fed to livestock on the farm should not be included as sales. Crops held for sale from previous years should not be inventoried, as they are a part of the previous year's business, but crops held from the previous year for feeding on the farm must be inventoried under "Feed and supplies" (p. 28).

On tenant farms any portion of the tenant's share of crops sold or held for sale is listed under the heading "Operator's sales." Any of the landlord's crops sold or held for sale are listed under "Landlord's sales." Where the landlord transfers any of his share of crops to another farm, the value of these are entered as sales for the farm from which removed. When farmers operate their own farms and rent additional land, the crops sold from their own farm or their share sold from rented land should be entered under the heading "Operator's sales."

LIVESTOCK RECORD

The form for the livestock record, pages 24 and 25, provides for a record of the number and value of all kinds of livestock at the beginning and at the end of the year, of all sales and purchases within the year, and of the number and value of all animals that died or have been killed and used by the family within the year. A record of livestock furnished hired labor is important on some farms, and should be recorded. There may be a variation in the number of any kind of livestock at the beginning and end of the year, according to the number bought, sold, raised, died, or slaughtered. The number of each kind of livestock on hand at the beginning of the year, plus the number purchased and raised, minus the number sold, that have died, and have been slaughtered, must equal the number on hand at the end of the year. Animals appearing in one class in the first inventory may appear in a more mature class in the second inventory, and animals born within the year may appear as sales and not in the inventories. The number of dairy cows is often increased during the year from animals classed as heifers in the first inventory. The number of heifers or steers may be increased during the year from animals classed as calves in the first inventory or by purchases. All livestock both born and sold during the year will appear as sales, but not in the inventory. Conservative market

prices should govern the livestock inventory values. On all farms except those on which the landlord has a share of the livestock the record is made under the heading "Operator's livestock."

Livestock products.—Record in the form, page 26, the amounts and values of all livestock products sold, such as milk, butter, eggs, wool, etc. Any of these products exchanged for groceries and other supplies should be entered as sales. The principle to follow in recording the year's farm receipts is to include as receipts the value of all farm products leaving the farm, whether sold or given in exchange. Space is provided for entering the amount and value of livestock products taken from the farm for family use.

Livestock summary.—"Livestock summary" (p. 26) provides for a concise statement of the business transactions for each kind of livestock and for the entire livestock enterprise. For each kind of livestock add receipts from livestock products and from sales and the inventory value at end of year. From this sum subtract the sum of the purchases, plus the inventory value at beginning of year. The result is the increase or decrease in the financial transactions for each kind of livestock and for the total livestock enterprise.

OTHER SOURCES OF INCOME

The heading "Other sources of income" (p. 26) provides for recording such items as money received for man or team labor, machine work, and other sources of income outside the farm business to which some part of the business contributed. The value of dwelling, wood for fuel, and other items of home supplies furnished by the farm is placed in the space provided. Rent received from tenant houses or other buildings on the farm is a receipt, when the values of such buildings are included in the farm real-estate value. Where the value of "Feed and supplies" is greater at the end of the year than at the beginning, the difference is a receipt to the year's business, and may be transferred direct from the form, page 28, to the summary, page 30.

FARM EXPENSES

Farm expenses may be considered under five divisions: (1) Current expenses, (2) family labor, (3) decrease in value of feed and supplies, (4) livestock decrease, and (5) depreciation charges.

Items of farm expense vary with the kind of farming and the region. Items not included in the list, page 27, should be written in.

Current expenses.—Expenses for paid labor constitute an important item on many farms and should be carefully computed and entered. For the board of hired labor either of two methods may be used in arriving at a charge: Entire expense for the board of hired labor may be charged and the proportion of the board furnished by the farm carried as a receipt to the enterprises contributing, or the charge for board may be made for only the food purchased. The final result for most farms is practically the same by either method.

The next items of current expense relate to repairs of machinery, buildings, fences, drains, terraces, etc. These are an important part of the expense of operating a farm. Determining the proper amount of expense to charge against each of these items for a given year is often perplexing, because extensive repairs may be made within one

year that will last over several years. Therefore space is provided for recording the expense for repairs of buildings, machinery, fences, etc., along with inventory values and depreciation charges (pp. 28 and 29). If the expense for repairs and improvements has not more than maintained the value of the farm, the entire expense may be charged against the one year's business. If the expense for repairs for the year is more than is necessary for maintaining the buildings, machinery, etc., the normal expense should be calculated as the charge to the year's business. (For machinery, see p. 29, for buildings, etc., p. 28). The other items of expense are self-explanatory. In several instances space is provided for recording quantities such as number of months of labor, amount of fertilizer, etc. The item "interest" refers to interest paid upon money borrowed within the year to carry on the business, or for purchase of feeding steers, lambs, etc., not represented in the farm inventories, and does not refer to interest on the farm mortgage.

Unpaid family labor.—Value of unpaid family labor is an expense chargeable to the farm business and is provided for in the summary form, page 30. It is determined on the basis of what it would cost to have the same work done by hired help or the amount of additional labor that the operator would have had to hire to carry on the same-sized business had family labor not been available.

Feed and supply decrease.—Where the value of feed and supplies is less at the end of the year than at the beginning the difference is an expense. This expense should be calculated from the feed and supply record, page 28, and transferred to the summary, page 30.

Livestock decrease.—If the value of livestock at the end of the year, plus the sales, is less than the value of livestock at the beginning of the year, plus purchases, the difference represents a loss and should be charged as an expense. This seldom occurs, except in case of disease or marked decrease in market value. This may be determined from the livestock, summary, page 26, and if a decrease exists it may be transferred to the proper space in the farm summary, page 30.

Depreciation of equipment and buildings.—In addition to current farm expenses there are certain other items, such as depreciation, which may be called fixed charges. These occur on all farms, though in varying degree. Buildings may be constructed so that they will last for 100 years, or they may have to be rebuilt every 25 or 30 years. The life of machinery depends on the care given and the extent it is used. Although there is no appreciable expense each year, these buildings and machines eventually must be replaced. A proportionate share of this replacement cost should be charged against the farm each year; otherwise whenever a new barn or dwelling is built the entire cost would have to be charged against the business for that year. Depreciation charges, therefore, are merely a method of distributing these costs over the period of years that they are in use. The amount of depreciation that should be charged each year as an expense is left to the judgment of the farmer. No set rules can be given, as no two farms are exactly alike in this respect. The sum of the amount of depreciation on machinery (p. 29), plus the depreciation of buildings, fences, etc. (p. 28), represents the amount to be transferred to the farm summary.

• FARM CAPITAL

Farm capital includes the value of all real estate, livestock, machinery and equipment, feed and supplies, and cash to run the business.

Real estate and improvements.—A record of the real estate and improvements is valuable when in sufficient detail to make possible a study of the essential considerations. The space under "real estate," page 28, is for recording the value of the farm, including buildings, fences, and water supply. Conservative market values should be used, and not high speculative prices or low assessed valuations. When values are too high or too low the results are of little use in analyzing the farm business. The total amount of capital used in conducting the farm business is necessary in determining the year's profits, regardless of whether a part is borrowed. Space is provided in this blank for recording the value of the buildings, fences, drains, etc., at the beginning and end of the year, the value of improvements made during the year, the value of property sold or salvaged, depreciation charges, and expenses for repairs. Ordinarily it is not necessary to inventory the fences, drains, etc., as the annual repair charge will usually care for these. In most instances it will therefore be found more practical to carry through the inventories only the building valuations. Labor expended in the construction of new buildings, tile drains, or other improvements, should be included with the expense for materials under the proper headings in the real estate and improvements record, and should not be entered under labor in the current expenses, page 27. Both repairs and depreciation are legitimate expenses in conducting a farm business. The essential point is that in arriving at a fair charge for either item, both must be considered. On one farm the improvements may be kept in first-class repair, in which case the depreciation charges are low and the repair charge high, while the reverse may be true on another farm. The amount chargeable for a given year as a depreciation expense and as a repair expense does not depend so much upon the actual outlay for the one year as upon the practice over a period of years. Therefore, space is provided under "repair expenses" for recording both the repair expenses for that year and the average, or what is normally expended for repairs. The expense for depreciation may be derived either by the inventory method—that is, by adding to the value at beginning of the year the value of improvements or new equipment added during the year, and subtracting from the sum the value at end of year plus value of property sold or salvaged—or on the basis of the years of remaining life. The years of remaining life basis has been found satisfactory for many farms.

In computing the farmer's income it is not necessary to include in the farm summary expenditures for improvements (see form, p. 28), because if they are included they appear both in the expense items and in the inventory items showing an increase, so the entries cancel each other in final calculations. The record of such improvements may be made as a memorandum and the value of such investments will appear as additional capital for the following year's business.

Livestock.—The method of arriving at the capital in livestock, pages 24 and 25 is explained on pages 4 and 5.

Machinery and equipment.—Record on page 29 the capital and outlay in machinery and equipment. Value for each item should be a fair price for it as compared with a new machine, according to its condition at the date of the record. Record values at the beginning of year, purchases, sales, value at end of year, depreciation charges, and repairs. Depreciation charges may be determined either through the method of taking the difference between value at beginning of the year plus purchases, and value at end of the year plus sales or salvage, or on the basis of the years of remaining life of the machinery. While this blank provides for data on each item of machinery, less detail is sufficient on many farms.

Feed and supplies.—Quantity and value of feed and supplies on hand at beginning and at end of the year is important, as any increase or decrease represents a gain or loss (p. 28). Importance of this record to the business as a whole varies with the time the farm year begins. If it begins on April 1, ordinarily only enough roughage or grain is on hand to last until the new crops are harvested. Grains or hay held for sale are not included with those held for feeding purposes. The reason for accounting for these items of feed and supplies is that they form a part of the farm investment, and also represent an increased or decreased item of income in the year's business.

Cash.—The item of "cash to run the farm" should represent the average amount of money the farmer has on hand during the year to pay current farm expenses; in other words, the average of his checking account above money used for personal and household expenses. This varies, not only from farm to farm but with the type of farming, as a dairy farm returns an income every month of the year, while a cotton or tobacco farm returns most of the year's income within one season. The amount of cash necessary to run the business will range from \$100 to \$1,000 on most farms.

FARM SUMMARY

The form on page 30 is for a summary of the farm business. The items are from the totals in the preceding forms, as follows:

Investment.—To determine the amount of capital invested in the year's business, use either the average at beginning and at end of the farm year, or that at beginning of the year, whichever more nearly represents the true capital invested in the year's business. Conditions on the farm should govern this. If real estate improvements are made, additional equipment purchased, or additional livestock added early in the year and used in the year's business, then the average at the beginning and end of the farm year should be used. If such changes are made late in the year, then the amount at the beginning of the year will probably more nearly represent the capital in that year's business. For real estate capital, calculate and transfer from page 28; for livestock, from pages 24 and 25; for machinery and equipment, from page 29; and for feed and supplies, from page 28. Insert the amount of cash used to run the farm.

Receipts.—Under receipts enter totals for crop sales from page 23, for livestock net increase from page 26, for receipts from other sources from page 26, and for the increase, if any, in feed and supplies from page 28.

Expenses.—Under expenses, enter the totals for current expenses from page 27, for unpaid family labor (compute this figure as explained on page 6), for livestock net decrease, if any, from page 26, for depreciation of buildings and machinery from pages 28 and 29, and for decrease in feed and supplies, if any, from page 28.

Farm income.—Subtract the total expenses from the total receipts and the result represents the farm income, which is the money received for the use of the capital and pay for the operator's labor.

Labor income.—Capital has an earning power which at least equals the current rate of interest on well-secured farm loans. Interest at this rate, deducted from the farm income, gives the farmer's labor income. The labor income represents the amount the farmer has left for his labor after paying all business expenses of the farm and deducting interest on capital. In addition, the farmer has the use of the farmhouse and the products furnished by the farm toward his living, such as fruit, garden vegetables, dairy products, and fuel.

The difference between receipts and expenses, which represents the farm income, will not necessarily correspond to the money on hand or in bank, as personal and living expenses are paid out of this amount. In the case of farmers with mortgages or other debts, the interest on these and any principal paid also come out of the farm income. Therefore the business may show a fairly large difference between receipts and expenses, and yet the farmer may not have the cash to show for it at the end of the year, because the funds have been spent for living or for personal uses or have been put into other investments, such as life insurance or paying off the mortgage. The object of this record is to analyze the farm business; to ascertain how much the farmer makes, not how much he actually saves. To find the net worth at the beginning and end of the farm year a form is provided on page 31.

Percentage return on capital.—Another way of expressing farm profits is to allow the farmer the value of his year's work as an expense and find the percentage return on capital. For many farms, especially those where practically all labor is hired, the percentage return on capital may be the most satisfactory way of indicating farm profits. For determining this figure subtract the value of the farmer's own labor from the farm income and divide the result by the capital.

The value of the farmer's own labor is an allowance for the services of the farmer for labor and supervision at the rate at which he would have to pay another man to take his place. This is exclusive of farm dwelling and farm products used by his family.

Farm supplies for family use.—In carrying this to the summary, add the values shown under the crop record, page 23, livestock record, pages 24 and 25, livestock products, page 26, and other sources, page 26.

Statement of net worth.—In addition to the analysis of the year's farm business, it is of interest and value to prepare a statement of net worth, or balance sheet, to show the financial worth at a given time. The net worth represents the difference between the resources, which include all property owned by you and owing to you, and the liabilities, which include all amounts owed by you to some one else.

The form on page 31 is for computing the net worth at the beginning and end of the year. The difference between the total net worth for these periods will represent the increased or decreased net worth for the year. Some of the figures may be carried forward from other forms as indicated. From the standpoint of borrowing capital, the net worth statement in addition to the year's business analysis is very important. The analysis of the year's business shows what has been accomplished through the year's farming operations. The net worth statement shows the value of all the farmer's property, and how much the farmer got ahead during the year.

FACTORS AFFECTING FARM PROFITS

There are a number of factors which materially affect success in the organization and management of farms. Some are of greater importance than others, some may be disregarded without serious consequences; but as a rule the profits derived from farming depend very largely upon the extent to which certain essential features of organization and management have been adopted and adhered to.

TYPE OF FARMING

The first consideration is the type of farming followed, which must be adapted to soil, climatic, and labor conditions, and especially to local conditions with reference to markets and market facilities, as well as to the business conditions existing on the individual farm.

Profits in farming are greatly affected from year to year by conditions over which the farmer has little or no control. Probably the most important, in most regions, are nature of the soil and yearly variations from year to year in weather conditions and prices. There are other conditions which one man alone can not control but which require the cooperation of an entire community for best results, such as maintaining and improving public roads and public schools, or other social, educational, and economic phases of farm development.

There is another group of factors affecting farm profits over which the individual farmer may have nearly entire control. From a study of these factors it is usually possible to determine both the good points and the deficiencies in a system of farming, and steps for improvement may be taken accordingly, with some assurance of a better income. On a majority of farms success is primarily dependent upon four important factors: (1) Size of business, (2) yield of crops, (3) returns from livestock, (4) efficiency of labor. Many other factors have their influence, and must not be overlooked on a given farm; for instance, the wise expenditure of capital is important. Overcapitalization in the way of paying too much for land, having too many or too expensive buildings, too much machinery, too high-priced work stock, etc., are very important, and yet a farm must be efficiently equipped. Again, in obtaining a good return from livestock the efficiency in feeding is important. Farm-management studies show, however, that the farmer whose business is efficient in the four factors outlined is generally successful. Farms that excel in none of these respects usually fail. Those deficient in one or two may succeed, but their chances of success are greatly lessened.

SIZE OF FARM BUSINESS

In comparing farms with respect to size or volume of business, some of the more important factors considered are size of farm, acres in crops, amount of livestock, amount of capital and amount of labor required in operating the farm. On farms where one enterprise predominates, such as a specialized cotton, fruit, or dairy farm, the best measure of size of business may be the acres in cotton, acres in fruit or number of cows. Amount of labor required in operating the farm may be used to advantage in comparing farms of different types. Twenty acres of truck crops may equal 200 acres of grain, hay and general livestock, both as to labor required and income received.

The approximate amount of labor required to raise some of the more important crops and care for the livestock is shown in Table 1, based on labor data covering thousands of farms:

TABLE 1.—*Approximate days of work required for the production of crops and in caring for livestock*

[A work day is 10 hours of man or horse labor]

Operations	Number of work days (10 hours each)		Operations	Number of work days (10 hours each)	
	Man labor	Horse labor		Man labor	Horse labor
Production of crops (per acre):			Production of crops—Continued.		
Timothy, alfalfa and clover hay, per cutting.....	1	1	Onions, Ohio, grown from seed (sold in bunches).....	149	10
Oats, wheat, barley, rye, buckwheat, and millet.....	2	3	Tomatoes, Northern States.....	15	11
Corn husked from standing stalks.....	2	4.5	Tomatoes, Florida.....	17	7
Corn husked from shock, or for silo.....	5	5.5	Cucumbers, Florida.....	32	10
Corn for silo, Central States.....	3	5.5	String beans, Florida.....	22	7
Corn husked, Southern States.....	4	4	Radishes, Ohio (sold in bunches).....	45	5
Sorghum cut for hay.....	3	3	Beets and carrots, Ohio (sold in bunches).....	82	8
Potatoes, Northern States.....	11	10	Strawberries, Florida.....	74	9
Potatoes, Southern States.....	13	7	Citrus Fruits, Southern States ²	10	7
Sweet potatoes.....	10	5	Apples.....	15	5
Sugar beets ¹	6	10	Caring for livestock (per year, except feeding steers and feeding sheep):		
Sugar cane for sirup, Georgia.....	16	7	Horses, Corn-Belt States.....	8	.75
Tobacco, Kentucky.....	35	8	Horses, Eastern States.....	12	.75
Cotton.....	13	6	Dairy cows.....	18	2
Peanuts (harvested), Georgia.....	5	3	Young stock, cattle, colts, etc.....	2.5	.2
Peanuts (hogged off), Georgia.....	3	2	20 feeding steers per month.....	2	1.5
Watermelons, Georgia and Florida.....	5	4	10 hogs, Corn-Belt States.....	10	2
Field beans.....	4	5.5	10 hogs, Eastern States.....	20	2
Rice, Louisiana, Arkansas, and Texas.....	3.5	5.5	10 brood sows and raising pigs to weaning.....	30	5
Cabbage, Northern States.....	13	12	100 ewes.....	50	5
Cabbage, Southern States.....	20	8	100 feeding sheep, yard lots, per month.....	3.5	3
Onions, Texas (sold by crate).....	68	14	100 chickens (well cared for).....	20	2
Onions, Ohio, grown from sets (sold in bunches).....	93	10			

¹ Does not include contract labor.

² Exclusive of picking, packing, and hauling of fruit.

A work day represents 10 hours of labor. It requires on the average 10 hours of man labor and 10 hours of horse labor to cut and store an acre of hay per cutting. Therefore, an acre of hay on the average represents the work of one man and one horse for one day.

The amount of labor required on other enterprises varies considerably from that for hay. Innumerable factors influence the time required for most farm operations, but the standards shown in this table approximate average conditions in many areas. These, or such modifications as local experience may render advisable, may be used in working out the amount of man and horse labor required for the productive enterprises on a given farm.

In Table 2¹ the farm profits for small, medium, and large-sized business are shown for a number of areas. The farms are divided in size-groups on the basis of the measure which seemed to indicate best the size of business for each area under study.

TABLE 2.—*Size of business*

Areas	Number of farms	Labor income, average of farms with—			Percentage return on investment, average of farms with—		
		Small business	Medium business	Large business	Small business	Medium business	Large business
Gloucester County, N. J.	125	\$686	\$867	\$1, 479	7. 8	8. 6	11. 2
Frederick County, Md.	150	189	304	611	3. 4	4. 6	5. 8
Chester County, Pa.	502	475	816	1, 242	7. 0	9. 2	10. 4
Mercer County, Pa.	349	221	282	354	2. 6	4. 1	4. 9
Washington County, Ohio.	25	148	228	432	1. 9	3. 4	5. 8
Clinton County, Ind.	100	342	518	828	5. 0	5. 6	5. 7
Lenawee County, Mich.	453	340	501	725	4. 3	6. 1	6. 2
Dane County, Wis.	60	278	408	542	3. 1	4. 5	4. 9
Tama County, Iowa.	210	943	1, 587	1, 837	4. 6	5. 7	5. 6
Warren County, Iowa.	184	555	431	918	3. 5	3. 2	4. 6
Barry and Lawrence Counties, Mo.	244	180	291	628	3. 2	5. 1	7. 4
Palouse area, Washington and Idaho.	246	221	328	756	5. 4	6. 5	7. 4
Skagit County, Wash.	202	66	94	244	2. 2	3. 2	5. 2
Sumter County, Ga.	280	174	741	2, 435	5. 5	8. 9	9. 9

Many farmers realize but meager incomes because their business is small. Such men often feel that their farm business is sufficiently large to keep them busy the entire year, when, as a matter of fact, actual results accomplished represent less than a half year's work. An acre of hay normally requires 8 to 10 hours of man labor, or approximately one day's work for each cutting; an acre of wheat, 15 to 20 hours; an acre of potatoes, 80 to 110 hours; caring for and feeding a dairy cow, 150 to 200 hours per year. Only about 250 to 275 days are actually available for productive work. Much time is lost in doing jobs about the farm which take time, but count for little. A farmer may keep busy the whole year, but if he has accomplished during that time only such work as should normally be done in 200 days his wages will be in proportion. A large volume of business may be done on a farm of few acres, while only a small business may be conducted on a poorly-managed farm of much larger acreage. Without reasonable size of business there is little opportunity for a satisfactory profit in farming.

¹ For the study shown in Tables 2, 3, 4, and 5 the farms for each area were arranged into three groups. One-third of the farms for each area are, therefore, represented in the lowest group, one-third in the medium, and one-third in the highest group.

Ways of increasing size of business.—Some of the ways of increasing the size of the farm business are:

1. Buying or renting more land. Farmers owning or renting small farms often rent additional land. This permits the use of a larger area with comparatively little additional capital.

2. Growing crops requiring more labor, or following a more intensive form of farming. One hundred acres devoted to corn, oats, wheat, etc., which may not be sufficient to keep two men busy, can easily be increased to a full 2-man farm by adding a few acres of such crops as sugar beets, potatoes, or fruit, depending upon market demand. Many persons make the mistake of buying a small area, intending to do intensive farming in localities where there is no market for the products of such farming. That land is adapted to truck crops is not sufficient justification for growing them. There must be the possibility of disposing of the products at remunerative prices.

3. Adding more livestock, sometimes beyond the point where the farm itself will support them. This practice is followed by many dairy farmers in some of the Eastern States. It necessitates the purchase of feed if the nature of the land prohibits raising grain as cheaply as it can be bought, or if the production of roughages and succulent feeds is more profitable than grain growing. Loss may follow, unless the additional animals are of high-producing quality. This is the one way open to many farmers whose business is otherwise too small to make them a good living. Success of many farms is largely dependent upon the number of high-quality cows or other livestock that can be kept.

4. Performing work outside the farm, such as teaming or lumbering during the winter. In many farming regions the opportunity for this source of income is very limited.

No one realizes better than the farmer that as a rule no phenomenal profits can be expected, and persons going into farming as a business should consider this fact. Agriculture is a good life work; it will pay wages and moderate returns on investment, provided both capital and labor are wisely expended. Success is most difficult to attain, however, unless the farm business is large enough to permit the efficient use of capital, labor, and managerial ability.

Note: The number of farms, average size, labor income, year or years of study, and investigators in charge of the studies used in Tables 2, 3, 4, 5, and 6 are as follows: Gloucester County, N. J., 125 farms, average size, 81 acres, average labor income, \$1,013, 3 years, 1914–1916, by G. A. Billings; Frederick County, Md., 150 farms, 140 acres, \$368 labor income, 1915, by H. A. Miller; Chester County, Pa., 502 farms, 94 acres, \$845 labor income, 1911, by H. M. Dixon; Mercer County, Pa., 349 farms, 101 acres, \$285 labor income, 1916, by Earl D. Strait; Washington County, Ohio, 25 farms, average size, 158 acres, average labor income, \$272, 7 years, 1912–1918, by H. W. Hawthorne; Clinton County, Ind., 100 farms, 126 acres, \$558 average labor income, 7 years, 1910, by E. H. Thomson, 1913–1918, by H. M. Dixon; Lenawee County, Mich., 453 farms, 112 acres, \$522 labor income, 1911, by H. M. Dixon; Dane County, Wis., 60 farms, average size, 148 acres, average labor income, \$407, 5 years, 1913–1917, by H. C. Taylor; Tama County, Iowa, 210 farms, average size, 220 acres, average labor income, \$1,378, 1918, by E. D. Strait; Warren County, Iowa, 184 farms, average size, 177 acres, average labor income, \$637, by E. D. Strait, 1918; Barry and Lawrence Counties, Mo., 244 farms, 122 acres, \$371 labor income, 1914, by W. J. Spillman and F. H. Branch; Palouse area, Washington and Idaho, 246 farms, 319 acres, average labor income, \$436, 1914, by L. W. Fluharty; Skagit County, Wash., 202 farms, 46 acres, \$152 labor income, 1915, by Harry Thompson and Earl D. Strait; Sumter County, Ga., 268 white owner farms, 418 acres, \$470 labor income, 1913, and 280 white owner farms, 432 acres, \$1,817 labor income, 1918, by H. M. Dixon and H. W. Hawthorne.

Cooperation: Mercer County, Pa., survey in cooperation with the Pennsylvania State Agricultural College; Washington County, Ohio, survey for the years 1912 and 1913, in cooperation with the Ohio Agricultural Experiment Station; Dane County, Wis., survey in cooperation with the Wisconsin State Agricultural College; Tama and Warren Counties, Iowa, surveys in cooperation with the Iowa Agricultural College; Sumter County, Ga., survey, 1918, in cooperation with the Georgia Agricultural College.

YIELD OF CROPS ¹

Crop yields greatly influence farm profits. Some farmers make fair profits with low yields because some other phase of the farm business is sufficiently developed to offset the poor yields, but doubtless these same farmers could make more money with higher yields. Profits increase at least until yields are obtained considerably above the average for the region, but beyond this limit very high yields may be obtained at the expense of farm profits.

In Table 3 farms for the various areas are placed in groups of those returning low yields, medium yields, and high yields, with the labor income and percentage return on capital. These show the importance of obtaining good crop yields if they are not obtained at too great expense. Other factors undoubtedly contributed toward making profits the greater on the farms with higher yields, but the fact that all areas show the same general results indicates the importance of this factor.

TABLE 3.—*Crop yields*

Area	No. of farms	Labor income, average of farms with—			Percentage return on investment, average of farms with—		
		Poor yields	Medium yields	Good yields	Poor yields	Medium yields	Good yields
Gloucester County, N. J.	125	\$515	\$923	\$1,609	4.5	8.7	14.5
Frederick County, Md.	150	181	371	551	3.6	4.7	5.5
Chester County, Pa.	502	508	892	1,129	6.1	9.1	11.3
Mercer County, Pa.	349	129	303	423	1.4	4.5	5.8
Washington County, Ohio.	25	165	284	364	2.0	3.9	5.2
Clinton County, Ind.	100	198	583	890	3.9	5.5	6.9
Lenawee County, Mich.	453	284	517	765	3.8	5.7	7.1
Dane County, Wis.	60	266	407	561	3.6	4.0	4.9
Tama County, Iowa.	210	676	1,309	2,158	4.2	5.3	6.2
Warren County, Iowa.	184	233	725	936	2.5	4.0	4.8
Barry and Lawrence Counties, Mo.	244	120	355	682	2.2	5.4	8.6
Palouse area, Washington and Idaho.	246	119	434	750	5.1	6.5	7.8
Skagit County, Wash.	202	49	147	214	2.7	3.9	4.1
Sumter County, Ga.	280	57	1,124	2,230	4.2	8.5	11.5

¹As a measure of the yields of crops either the yield per acre of each crop may be used, or the yields of all the crops grown may be reduced to a percentage comparative basis by the method shown, which is commonly known and referred to as "crop index." On farms where one crop predominates, the yield of that crop may be the best index of good yields, but where a number of crops are grown the use of the crop index will be found of value in making comparisons.

The crop index which is used as a measure of the yields on a given farm is found as follows: Suppose a given farm produces—

500 bushels of corn on 10 acres.
 200 bushels of wheat on 10 acres.
 25 tons of hay on 20 acres.

Total 40 acres

Suppose, further, the average yields in the locality are such that, on the average, farmers produce—

500 bushels of corn on 7.7 acres (65 bushels per acre).
 200 bushels of wheat on 8.0 acres (25 bushels per acre).
 25 tons of hay on 16.7 acres (1.5 tons per acre).

Total 32.4 acres.

The crop index of the farm in question is now found by dividing 32.4 by 40; that is, by dividing the acres required with average yields by the acres required on this farm to produce the given quantities of these products. In this case the crop index is 0.81. This means that the yields on this farm are approximately 81 per cent of the average of the community.

RETURNS FROM LIVESTOCK

On farms where livestock is an important enterprise, the quality of the stock is very important. On most farms, except in the South and certain Western States, more of the crops are fed to livestock than are sold direct. The animals are the market for the crops, hence their production is a most important factor in farm profits. The best of corn and hay crops will count for little when fed to animals that make returns below the market prices for these crops. On the other hand, good livestock may not be profitable if not fed and cared for economically.

In Table 4 is shown the effect of returns from livestock upon income when farms where livestock is an important enterprise are arranged in three groups according to whether they show poor, medium, or good production. Returns from livestock are measured by amount and value of product per animal.

TABLE 4.—Returns from livestock ¹

Area	Number of farms	Labor income, average of farms with—			Percentage return on investment, average of farms with—		
		Poor livestock returns	Medium livestock returns	Good livestock returns	Poor livestock returns	Medium livestock returns	Good livestock returns
Frederick County, Md.-----	150	\$76	\$285	\$737	2.8	4.5	6.5
Chester County, Pa.-----	502	413	912	1,215	5.0	9.6	12.0
Mercer County, Pa.-----	349	136	244	473	1.4	3.9	6.3
Washington County, Ohio-----	25	54	243	528	.2	3.5	7.6
Clinton County, Ind.-----	100	82	605	995	3.6	5.7	6.9
Lenawee County, Mich.-----	453	208	543	817	2.8	5.9	7.8
Dane County, Wis.-----	60	—9	500	740	1.7	4.7	6.2
Tama County, Iowa.-----	210	726	1,271	2,137	4.2	4.9	6.6
Warren County, Iowa.-----	184	—70	631	1,339	2.0	3.8	5.5
Barry and Lawrence Counties, Mo.-----	244	223	317	541	3.2	4.5	7.7
Palouse area, Washington and Idaho-----	246	250	463	577	5.5	6.5	7.2
Skagit County, Wash.-----	202	—79	100	393	1.7	3.8	5.3

¹ Gloucester County, N. J., and Sumter County, Ga., areas are not included in this table because of the relative unimportance of the livestock industry.

EFFICIENCY IN THE USE OF LABOR

The exceedingly diverse nature of farm operations makes wide opportunity for inefficiency to enter into their performance. In a modern factory a man is expected to do a certain amount of work, and often the machine sets the pace for him. Generally the worker on the farm must be his own boss and must set his own pace. At certain times he must work under adverse weather conditions. Some work must be devoted to things which add little or nothing to the profits. It requires twice as much time for some men to do a certain kind of work as others. Work may be so organized that a given amount of effort accomplishes more than the average. Efficient use of horse labor is important and bears a close relation to

size of business. On the 1-man farm the horses are necessarily idle every time the farmer does work not requiring horse labor. On larger farms work can be so arranged that one man keeps the horses busy while others attend to work where horse labor is not needed.

In Table 5 is shown the effect upon farm profits of a low, medium, and high return for man labor. The common basis used for comparing efficiency in use of labor is that of crop acres per man. This is a satisfactory measure providing the farms are of the same general type. Where farms vary in type a good measure is the number of days of productive labor per man. Inefficiency in use of labor may be due to lack of opportunity, indifference of the operator, or many other factors. Whatever the reasons, results show that with a low return per man the profits are usually correspondingly small.

TABLE 5.—*Efficiency in the use of labor*

Area	Number of farms	Labor income, average of farms with—			Percentage return on investment, average of farms with—		
		Low labor returns	Medium labor returns	High labor returns	Low labor returns	Medium labor returns	High labor returns
Gloucester County, N. J.	125	\$773	\$1, 120	\$1, 149	7. 4	10. 2	10. 1
Frederick County, Md.	150	174	362	587	3. 6	4. 5	5. 8
Chester County, Pa.	502	530	936	1, 073	6. 6	9. 5	10. 5
Mercer County, Pa.	349	239	256	361	3. 0	3. 9	4. 6
Washington County, Ohio.	25	181	305	332	2. 0	4. 5	4. 7
Clinton County, Ind.	100	316	550	812	4. 6	5. 7	6. 0
Lenawee County, Mich.	453	313	520	733	4. 1	5. 6	6. 9
Dane County, Wis.	60	312	457	455	3. 6	4. 4	4. 5
Tama County, Iowa.	210	722	1, 380	2, 061	4. 2	5. 4	6. 0
Warren County, Iowa.	184	373	647	885	2. 5	4. 1	4. 8
Barry and Lawrence Counties, Mo.	244	182	257	666	3. 4	4. 2	8. 0
Palouse area, Washington and Idaho.	246	95	242	944	4. 8	6. 4	8. 0
Skagit County, Wash.	202	4	131	291	2. 0	3. 8	5. 1
Sumter County, Ga.	280	532	1, 224	1, 675	5. 0	8. 8	10. 5

EFFECT OF ALL FOUR FACTORS

Results shown in Tables 2, 3, 4, and 5 relative to effect of size of business, yield of crops, production of livestock, and efficiency in use of labor, are evident that no one of these is the determining factor for success. Size of business is very important, but a large business conducted without attention to these other factors often results in loss. Table 6 shows the effect upon profits of having 1, 2, 3, or all 4 factors (size of business, crop yields, production of livestock, or efficiency in use of labor) better than the average of the region. Those with 2 of these factors better than the average make more than those with only 1, and those with all 4 factors above the average far excel all others. Usually less than 10 per cent of the farms are better than the average in all 4 respects, while from 20 to 30 per cent in each area have only 1 factor better than the average of the region, and from 9 to 21 per cent are below the average in all four factors. (Table 6.)

TABLE 6.—A comparison of farm profits when 1, 2, 3, and all 4 factors (size of business, crop yields, returns from livestock, and efficiency in the use of labor) are above the average of the region.¹

Area	Number of farms	Farms above the average of the region in—							
		One factor		Two factors		Three factors		Four factors	
		Per cent of total farms	Average labor income	Per cent of total farms	Average labor income	Per cent of total farms	Average labor income	Per cent of total farms	Average labor income
Frederick County, Md.....	150	28	\$94	39	\$400	19	\$774	4	\$1,288
Chester County, Pa.....	502	26	432	38	827	21	1,339	6	1,907
Mercer County, Pa.....	349	28	190	35	304	19	424	7	665
Washington County, Ohio.....	25	31	137	21	176	20	480	14	611
Clinton County, Ind.....	100	27	252	29	496	22	943	9	1,606
Lenawee County, Mich.....	453	24	321	36	467	20	930	7	1,241
Dane County, Wis.....	60	24	165	35	345	25	655	6	1,044
Tama County, Iowa.....	210	29	512	30	1,352	25	2,480	5	3,700
Warren County, Iowa.....	184	28	351	36	629	16	1,339	8	1,662
Barry and Lawrence Counties, Mo.....	244	22	168	26	450	18	527	13	898
Palouse area, Washington and Idaho.....	246	29	117	33	501	15	1,069	7	1,186
Skagit County, Wash.....	202	27	25	35	160	16	190	8	673

¹ Gloucester County, N. J., and Sumter County, Ga., areas not included in this table because of the relative unimportance of the livestock industry in these areas.

A well-balanced farm business is nearly always profitable. The farms that are as good or better than the average of their community in all four of the factors here mentioned seldom fail to make a good profit. Thus, if a farm is devoted to a type of farming adapted to its conditions, if it is as good or better than the average in size of business, yield of crops, production of live stock, and efficient in the use of labor, and is adequately and economically equipped, it is almost certain to be profitable. The weakest factor is the one that needs attention in improving the business. If the quality of the livestock is high, greater improvement in the farm business can usually be obtained by devoting attention to developing the size of the business or sale of cash crops, or increasing labor efficiency, rather than by further improving the quality of livestock.

Figure 1 (p. 18) illustrates graphically the data presented in Tables 2, 3, 4, 5, and 6. The chart shows the percentage the average labor income of each group is of the average of all farms of the area. The groups with small sized business returned only about 55 per cent of the average labor income of the area, while the groups with large sized business returned 158 per cent. The groups with poor crop yields returned 44 per cent of the average labor income of the area, while those with good crop yields returned 156 per cent. The groups having poor returns from livestock returned only 25 per cent of the average labor income of the area, while those with good returns from livestock returned 179 per cent. The groups of farms low in labor efficiency returned 54 per cent of the average labor income of the area, while those high in labor efficiency returned an average labor income equal to 155 per cent.

By a little closer study of the chart something of the relative importance of these factors in each area may be determined. For

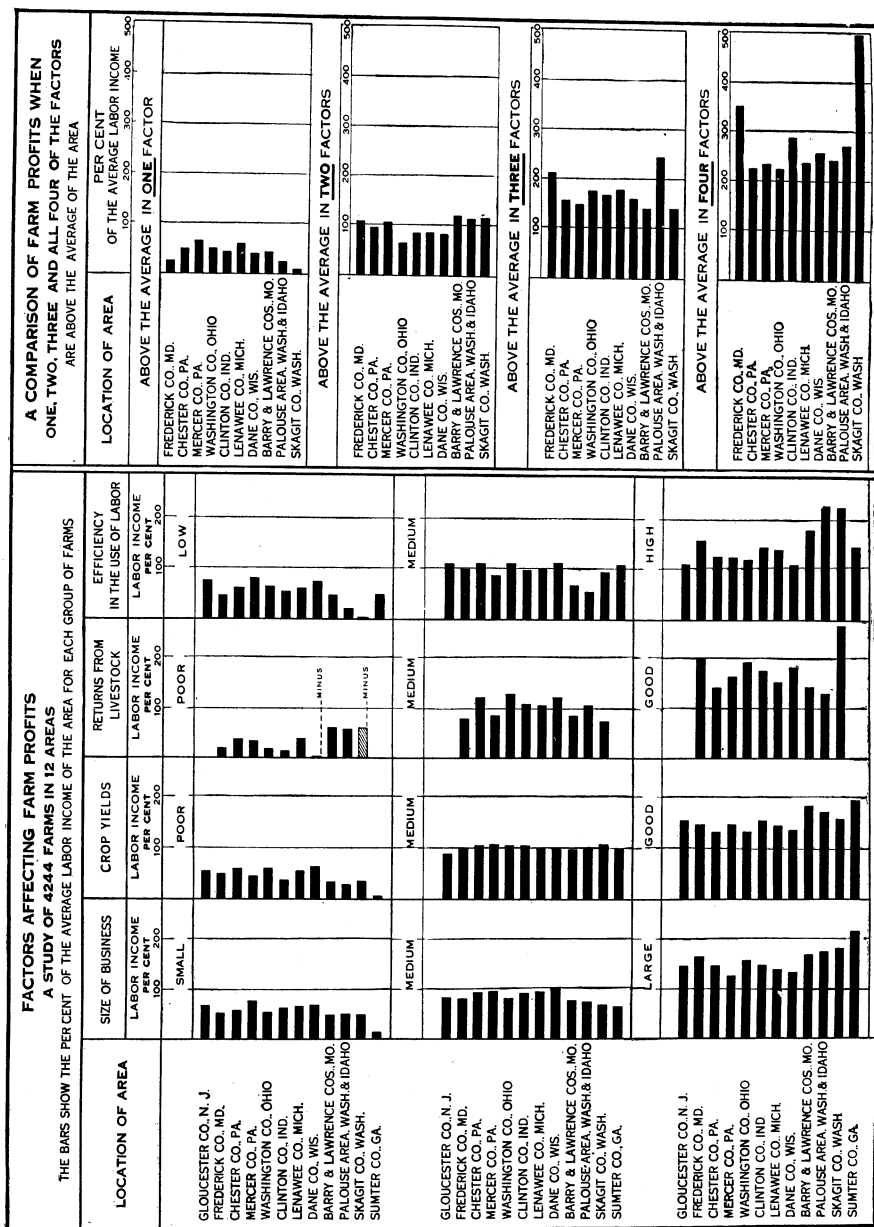


Fig. 1.—Graphic picture of the importance of certain factors affecting farm profits; and a comparison of farm profits, showing that the profits are relatively greater in those cases where the factors are above the average for the community

example, in areas having the greater part of the receipts from livestock, there is more difference between the labor income of farms having poor returns and good returns from livestock than between those having poor crop yields and good crop yields—returns from livestock being the factor of greater importance. In areas having the greater part of the receipts from the sale of crops, there is more difference between the labor income of farms having poor crop yields and good crop yields than between those having poor returns and good returns from livestock—crop yields being the factor of greater importance. The areas in Mercer County, Pa.; Washington County, Ohio; Dane County, Wis.; and Skagit County, Wash., are livestock areas, while those in Gloucester County, N. J.; Barry and Lawrence Counties, Mo.; Palouse area in Washington and Idaho; and Sumter County, Ga., are crop areas.

In the part of the chart showing a comparison of the profits on farms with 1, 2, 3, or all 4 of the factors above the average of the area, the labor income of the farms above the average of the area in but 1 factor seldom exceeds 50 per cent of the average labor income of all farms; and farms with 2 factors above the average of the area have labor incomes around the average of the area. The farms better than the average of the area in 3 factors have labor incomes about 75 per cent above the average of the area, while those better in all 4 factors have labor incomes 175 per cent above. About one-fourth of all the farms were above the average of the area in one factor, one-third in two factors, one-fifth in three factors, and less than one-tenth in all four factors.

BLANKS FOR USE IN ANALYZING THE FARM BUSINESS AND
DETERMINING THE FARM INCOME

State.....
County.....
Township.....
Farm year beginning.....
Operator.....
P. O. Address.....
Landlord.....
P. O. Address.....
Location.....
Miles from market.....
Soil type.....
Topography.....

FARM AREA

Acres owned.....	Acres in crops.....
Acres cash rented.....	Acres in tillable land lying out.....
Acres share rented.....	Acres in rotation pasture.....
Total.....	Acres in permanent pasture tillable.....
Acres rented out.....	Acres in open pasture not tillable.....
Acres operated.....	Acres in woodland pastured.....
.....	Acres in woodland not pastured.....
.....	Acres in waste lands, roads, etc.....

[illegible]

OPERATOR'S LIVESTOCK RECORD

Kind	Beginning of farm year			End of farm year			Sales during year			Purchases during year			Died	Family use	
	Num- ber	Price	Value	Num- ber	Price	Value	Num- ber	Price	Value	Num- ber	Price	Value	Num- ber and value	Num- ber	Value
Horses															
Mules															
Colts (---) ¹															
Cows															
Heifers over 1 year															
Calves under 1 year (---) ¹															
Bulls															
Steers over 1 year															
Ewes															
Lambs under 1 year (---) ¹															
Brood sows															
Other hogs															
Pigs (---S. ---F.) ¹															
Chickens															
Turkeys															
Ducks															
Total															

¹ Record number of calves, colts, lambs, and spring and fall pigs born during year.

LANDLORD'S LIVESTOCK RECORD

Kinds	Beginning of farm year			End of farm year			Sales during year			Purchases during year			Died	Family use	
	Num-ber	Price	Value	Num-ber	Price	Value	Num-ber	Price	Value	Num-ber	Price	Value	Num-ber and value	Num-ber	Value
Horses.....															
Mules.....															
Colts (.....) ¹															
Cows.....															
Heifers over 1 year.....															
Calves under 1 year (.....) ¹															
Bulls.....															
Steers over 1 year.....															
Ewes.....															
Lambs under 1 year (.....) ¹															
Brood sows.....															
Other hogs.....															
Pigs (..... S..... F.) ¹															
Chickens.....															
Turkeys, ducks, geese.....															
Total.....															

¹ Record number of calves, colts, lambs, and spring and fall pigs born during year.

LIVESTOCK PRODUCTS

Items	Sales				Family use	
	Amount	Price	Operator	Landlord	Amount	Value
Butter, milk, cheese.....						
Eggs.....						
Meat.....						
Wool.....						
Breeding fees.....						
Hides.....						
Total.....						

LIVESTOCK SUMMARY

	Horses and mules	Cattle	Sheep	Hogs	Poultry	Total live-stock
Livestock products (p. 26).....						
Livestock sold (pp. 24, 25).....						
Livestock end of year (pp. 24, 25).....						
Total.....						
Livestock purchased (pp. 24, 25).....						
Livestock beginning of year (pp. 24, 25).....						
Total.....						
Increase ¹						
Decrease ¹						
Operator's net increase ¹						
Operator's net decrease ¹						
Landlord's net increase ¹						
Landlord's net decrease ¹						

OTHER SOURCES OF INCOME

Items	Receipts				Family use	
	Amount	Price	Operator	Landlord	Amount	Value
Man and team labor.....						
Machine work.....						
Rent—land, buildings.....						
Sirup and sugar.....						
Bees and honey.....						
Lumber, wood, etc.....						
Total.....						

¹ If sum of stock products, stock sold, and stock at end of year is greater than sum of stock purchased and stock at the beginning of year, the difference is increase; if less, decrease.

CURRENT EXPENSES

Items	Operator	Landlord
Year hands (..... months)		
Month hands (..... months)		
Day hands (..... months)		
Cotton picking, chopping (..... months)		
Cropper labor (..... months)		
Contract labor (..... months)		
Board of hired labor (..... months)		
Repairs, machinery (p. 29)		
Repairs, dwelling (p. 28)		
Repairs, tenant houses (p. 28)		
Repairs, other buildings (p. 28)		
Repairs, fences (p. 28)		
Repairs, drains or terraces (p. 28)		
Feed: Roughage		
Feed: Grain, etc		
Pasture, bedding		
Feed grinding, silo filling, corn shredding		
Milk hauling, cow testing, ice		
Horseshoeing		
Veterinary, medicines, dips, etc		
Breeding fees, registry fees		
Seeds, plants, trees		
Fertilizer, wage land (..... tons)		
Fertilizer, cropper land (..... tons)		
Lime (..... tons), manure (..... tons)		
Spray material		
Twine		
Threshing, clover hauling		
Baling and wire, cotton ginning		
Other machine work hired		
Fuel and oil for farm work		
Auto for farm use		
Telephone		
Bags, cans, crates, barrels, boxes, etc		
Storage, freight, commission		
Advertising, auctions		
Insurance		
Taxes		
Water tax		
Cash rent		
Interest		
Total		

REAL ESTATE AND IMPROVEMENTS

[T=Tenant, L=Landlord]

Items	Value at beginning of year	Value of improvements made during year	Value of property sold or salvaged during year	Value at end of year	Depreciation charges		Repair expenses	
					Per cent	Amount	During year	Normal
Dwellings								
Tenant houses								
Other buildings								
Fences								
Drains, terraces								
Land clearing								
Total for operator								
Total for landlord								
	Beginning of year		Purchased during year		Sold during year		End of year	
Value operator's real estate								
Value landlord's real estate								

FEED AND SUPPLIES

[T=Tenant, L=Landlord]

Items	Beginning of farm year			End of farm year		
	Amount	Price	Value	Amount	Price	Value
Hay						
Silage						
Corn						
Wheat						
Oats						
Cottonseed						
Seed cane						
Clover, grass seed						
Total for operator						
Total for landlord						
Operator's increase ¹				Decrease ¹		
Landlord's increase ¹				Decrease ¹		

¹ If value of feed and supplies at end of year is greater than at beginning the difference is "increase"; if less, "decrease."

MACHINERY AND EQUIPMENT

[T=Tenant, L=Landlord]

No.	Items	Value at beginning of year	Value of purchases during year	Value of sales during year	Value at end of year	Depreciation charges		Value of repairs made during year
						Per cent	Amount	
---	Wagons, beds, racks							
---	Buggies, carriages							
---	Sleds							
---	Stalk cutters							
---	Breaking plows							
---	Harrows							
---	Rollers, plankers							
---	Corn, cotton planters							
---	Grain drills, seeders							
---	Plant setters							
---	Cultivators							
---	Corn, grain binders							
---	Mowers							
---	Tedders							
---	Hay rakes, loaders							
---	Hay stackers, balers							
---	Manure spreaders							
---	Fertilizer distributors							
---	Threshers, hullers, etc							
---	Husker, etc							
---	Ensilage cutters							
---	Grain cleaners							
---	Feed grinders							
---	Sirup and sugar eq'p't							
---	Beet, tobacco eq'p't							
---	Potato diggers, etc							
---	Sprayers, etc							
---	Engines							
---	Tractors							
---	Autotrucks							
---	Work harness							
---	Driving harness							
---	Milking machines							
---	Other dairy equipm't							
---	Sheep equipment							
---	Hog equipment							
---	Poultry equipment							
---	Bee equipment							
---	Other equipment							
	Total for operator							
	Total for landlord							

SUMMARY

	Operator		Landlord	
	Item	Total	Item	Total
Investment: ¹				
Real estate (p. 18)				
Livestock (pp. 24, 25)				
Machinery and equipment (p. 29)				
Feed and supplies (p. 28)				
Cash to run farm				
Total	→		→	
Farm receipts:				
Crops (p. 23)				
Livestock, increase (p. 26)				
Other sources (p. 26)				
Increase feed and supplies (p. 28)				
Total	→		→	
Farm expenses:				
Current (p. 27)				
Unpaid family labor (.. mo.)				
Livestock, decrease (p. 26)				
Depreciation (pp. 28, 29)				
Decrease feed and supplies (p. 28)				
Total	→		→	
Farm income				
Interest on investment at .. per cent ² ..				
Labor income				
Value operator's labor (.. mo.)				
Percentage return on capital ³				
Value items for family use (pp. 23 to 26) ..	→		→	

¹Use average investment or that of beginning of year, whichever more nearly represents the true capital invested in the year's business.

²Use current rate of interest on well-secured farm loans.

³After deducting value of operator's labor from farm income.

STATEMENT OF NET WORTH

	Beginning of farm year	End of farm year
RESOURCES:¹		
All cash on hand		
Real estate (p. 28)		
Livestock (pp. 24, 25)		
Machinery (p. 29)		
Feed and supplies (p. 28)		
Household equipment		
Automobile		
Other tangible property		
Accounts owing to you		
Notes owing to you		
Mortgages owing to you		
Bonds and stocks owned		
Interest due you or accrued on notes, mortgages, and bonds		
Total resources		
LIABILITIES:²		
Accounts owed by you		
Notes owed by you		
Mortgages owed by you		
Interest due or accrued and owed by you		
Total liabilities		
Total net worth ³		
Increase or decrease in net worth ⁴		

¹Includes all property owned by you and owing to you.²Includes all amounts which are owed by you to some one else.³Subtract total liabilities from total resources.⁴If total net worth at the end of the year is greater than at the beginning of the year the difference is an increase; if less, a decrease.

SOME MEASURES OF SUCCESSFUL FARMS ¹

	This farm	Average of farms of same type in locality
SIZE OF BUSINESS: Farm area -----		
Crop area-----		
Months of man labor ² -----		
Number of work stock-----		
Number animal units ³ -----		
Number cows-----		
Days productive man labor ⁴ -----		
INVESTMENT: Per cent of investment in real estate -----		
In buildings per crop acre-----		
In machinery per crop acre-----		
CROP RETURNS: ⁵ -----		

LIVESTOCK RETURNS: ⁶ -----		

Returns per \$100 invested in livestock-----		
EFFICIENCY OF LABOR: Crop acres per man -----		
Crop acres per horse-----		
Productive work days per man-----		
Productive work days per horse-----		
COSTS: Total value of farm feeds consumed by livestock ⁷ -----		
Total value of purchased feeds consumed by livestock-----		
Total feed cost per animal unit-----		
Total value of man labor ⁸ -----		
Per cent total expenses are of total receipts-----		
Per cent total feed cost is of total livestock returns-----		
Net returns per \$1 of labor-----		
Labor cost per productive work day-----		
PROFITS: Labor income -----		
Per cent return on investment-----		

¹ Designed for general application; record important measures for a given farm or locality. The value of any given measure will vary with the kind of farming and section of the country.

² Add months of hired labor, p. 27, family labor, p. 30, and farmer's labor, p. 30.

³ An animal unit is used as the basis for comparing different kinds of animals and represents one mature horse, cow, or steer, or as many smaller animals as require the feed of these. Usually 2 head of young cattle or colts, 7 sheep, 14 lambs, 5 hogs, 10 pigs, or 100 chickens are each equivalent to one animal unit.

⁴ The productive days of man labor represent the number of days of labor that should ordinarily be required to care for the livestock and raise the crops. See Table 1, p. 11, for approximate time required for various crops and classes of livestock and make computations for a given farm accordingly.

⁵ Record important crops and yields per acre or receipts. Crop record, pp. 22, 23.

⁶ Record important measures of good livestock such as production or receipts per cow, receipts per ewe, receipts per sow, etc. Livestock and livestock products records, pp. 24, 25, and 26.

⁷ Find the value of all crops fed from crop record, pp. 22, 23, plus a charge for pasture, plus or minus the difference in feed inventory, p. 28.

⁸ Add value of all hired labor, p. 27, plus family labor, p. 30, plus farmer's labor, p. 30.

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